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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,390	02/10/2004	Daniel S. Yaich	YAIC3001/BEU	9759

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EXAMINER

HAYES, BRET C

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,390

Applicant(s)

YAICH, DANIEL S.

Examiner

Bret C Hayes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 4-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/10/04, 05/14/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1 – 3, in the reply filed on 29 NOV 2004 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Nos. 1,149,485 to Wilcox et al. (*Wilcox*) in view of 5,917,143 to Stone.
4. Re – claim 1, Wilcox disclose the invention substantially as claimed including a method of cannelluring a frangible projectile comprising the steps of positioning, in a cutting machine, a projectile body, rotating the body around a longitudinal axis at a high rate of speed, and applying a cutting tool having a flat surface with beveled edges to the body*. However, Wilcox does not disclose the body being made of a compressed powdered material. *Regarding positioning the body in a cutting machine, rotating the body around a longitudinal axis at a high rate of speed and applying a cutting tool have a flat surface with beveled edges, these are all well known processes in the art of machining by turning using a lathe. With respect to the cutting tool itself, most tools have a flat surface with beveled edges—these being called, a face, a front cutting edge angle and a side cutting edge angle, respectively. (For example, see drawings beneath **Choosing a Cutting Tool** at page 2 of supplied MIT Machine Tool Lecture, dated 25 NOV 2001.) Further,

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at 1, at line 88, Wilcox states that a fin created by the invention is 'turned off'. Since the invention is directed toward a material element of the body being removed, Wilcox is certainly not saying anything like the use of a toggle switch, and is implicitly stating that the body is being machined on a lathe. Wilcox further states, at line 90, that a groove can be cut into the body as desired—yet another indication of the use of a machine tool, such as a lathe. (Indeed, even *The Cartridge Collector's Glossary-Illustrated* as provided by Applicant says that cannellure(s) is/are produced by machining, which machining of grooves into cylindrical parts most frequently requires the use of a lathe.) Stone teaches the use of frangible powdered projectiles in the same field of endeavor for the purpose of target and training applications. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wilcox to include the powdered projectile as taught by Stone in order to use such in target and training applications.

5. Re – claim 2, Stone further teaches the powdered material being a lead-free powder material, see entirety of specification—iron powder. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Wilcox to have the powdered material be a lead-free powder material as taught by Wilcox for the reasons above.

6. Re – claim 3, while neither Wilcox nor Stone explicitly discloses the powdered material comprising a copper tin powder mixture, a copper tin mixture is also commonly called bronze—and well known in the art—and, a powdered mixture of copper and tin is known in frangible projectiles, see US Patent No. 6,536,352 B1 to Nadkarni et al., as provided by Applicant, for example, and would be well known to one of ordinary skill in the art at the time the invention was made. Further, it would have been obvious to one having ordinary skill in the art at the time

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the invention was made to select bronze, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

Any inquiry concerning this communication should be directed to Bret Hayes at telephone number (703) 306 – 0553. The examiner can normally be reached Monday through Friday from 5:30 am to 3:00 pm, Eastern Standard Time.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu, can be reached at (703) 305 – 7421. The fax number is (703) 872 – 9306.

bh

12/9/04



TERI PHAM LUU
SUPERVISORY
PRIMARY EXAMINER